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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/762,178

01/21/2004

Shahriar Vazan

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03/13/2006

Patent Documentation Center
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EXAMINER

TRAN, HUAN HUU

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,178

Applicant(s)

VAZAN, SHAHRIAR

Examiner

Huan H. Tran

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2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 is/are allowed.
- 6) ☒ Claim(s) 1 and 7 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 8-13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/21/04/5/16/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the serial number of the co-pending application cited at page 1 of the specification should be provided.

Appropriate correction is required.

Information Disclosure Statement

2. With respect to the IDS filed on 01/21/04, the co-pending application has not been considered for lack of a positive serial number.

3.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claimd 1, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guerin (EP 829933 cited in the IDS filed on 05/16/2005) in view of Rajeswaran (US Patent 5917534).

As to claim 1 and claim 7, with reference to Figs. 3 and 7, Guerin discloses a multi-beam scanning system and a corresponding method, comprising:

an array (42) of light sources (d1-d5) each having driver (not shown but is disclosed at Col. 5, lines 53-57) programmed with calibrated uniformity values for producing a corresponding light beam;

an array of photodetectors (S1-S5),

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a beam splitter (plate 70) for deflecting said light beams onto said photodetector array (see Fig. 7 and Col. 5, lines 39-52); and

an array of feedback loops for simultaneously adjusting beam power intensity in a fast/slow scan direction (note the definition of fast/slow scan direction at Col. 3, lines 2 and line 28) using said drivers for each said light beam wherein each said driver uses said photodetector array as a reference source to adjust for parallel beam to beam power correction produced by said array of light sources (Col. 5, lines 53-58).

Guerin does not teach that each of the drivers is a programmable driver programmed with calibrated uniformity values as recited in claim 1.

Rajeswaran discloses an image forming apparatus having an LED print head comprising light-emitting diode arrays with integrated photodetector arrays disposed in a one-to-one relationship, and provided with an array of feedback loops for correcting the non-uniformity of the light output of each of the light-emitting diodes due to aging of the light-emitting diodes (col. 13, lines 23-61), the feedback loop including a digital to analog converter (61, Fig. 13) for converting the digital signal stored in the target data register (62) so as to control the current driver (65) to adjust the current to the LED (Fig. 13) (col. 9, line 55 to col. 10, line 11).

Rajeswaran further teaches using register (LCU 175, Fig. 17) for storing the empirically determined correction values for the target data to control the current driving the light-emitting diodes (col. 9, lines 29-54). Thus, it can be seen that Rajeswaran discloses the limitation that each of the drivers is a programmable driver programmed with calibrated uniformity values as recited in claim 1.

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the programmable driver for the drive current in the device of Guerin as taught by Rajeswaran. The motivation for doing so would have been to correct the non-uniformity of the light output of the light emitting diodes in real time.

Allowable Subject Matter

6. Claims 14-20 are allowed.

7. Claims 2-6, 8-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

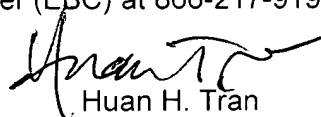
8. The following is a statement of reasons for the indication of allowable subject matter: Claim 14 and dependent claims thereof are allowable over art of record at least for the inclusion of the limitation "wherein each programmable laser driver uses said photodetector array summed with non-linearity inputs to correct for beam to beam power correction". Claims 2-6, 8-13 are allowable over art of record for the inclusion of the limitation additionally recited in these claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huan H. Tran whose telephone number is (571) 272-2261. The examiner can normally be reached on at work on W-F from 6:30 to 5; T are telework days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Huan H. Tran
Primary Examiner
Art Unit 2861

hht
03/03/06